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AUTHOR Palola, Ernest G.
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ABSTRACT

How is the concept "success" applied in postsecondary education? After a review of publications, case studies conducted at Empire State College's New Models for Career Education program are presented. NMCE is a career program that combines on the job experience with academic study and is based on students' needs, plans, and aspirations, and the career training requirements as students see them. A multiple perspective view of educational program effectiveness and success is found to have merit. Persons attempting to decide on the success of an educational program should: (1) look at a variety of data; and (2) weigh data against the interests of administrators, faculty, students, state officials, and taxpayers. (KE)

QUALITY INDICATORS

An Approach To Measuring Program Success

Ernest G. Palola

Office of Research & Evaluation
Empire State College
Saratoga Springs, New York

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ABSTRACT

QUALITY INDICATORS

An Approach To Measuring Program Success

by
Ernest G. Palola

This paper discusses the concept of "success" as applied (used) in post-secondary education. First, alternate uses of the concept as used in various publications is reviewed and then, the author provides his approach which is illustrated through case studies conducted at Empire State College's New Models for Careers Education program.

CONTENTS

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1. INTRODUCTION

ON THE CONCEPT OF "SUCCESS"

At ESC, we have been developing and testing PERC--Program Effectiveness and Related Costs--a framework that purpose unites the measurement of outcomes and costs for individual academic programs. Central to the work is consideration of what constitutes "success" and how this is approached methodologically.

Without getting into an extensive review of relevant literature at this time, certain summary observations can be suggested, however, about what has been said about and done with the concept of "success" in education.

Evaluating the "success" of postsecondary education programs has occurred in the past. Recall the Cartter/ACE rankings of graduate programs, numerous graduate follow-up studies, individual case studies of institutions like Bennington, Harvard, Johnston, etc., economic analyses of college graduate earnings, various published data on the employability of college graduates, and recent studies of nontraditional and extended degree programs. And, of course, we have the Kerr Carnegie series which analyze and evaluate widely disparate dimensions of the postsecondary education arena. So, there is a track record of concern about and analysis of "success" in education.

These studies and surveys of success have certain common features. First, they are often macro-scopic. An entire institution is the unit of analysis or a single issue - serving poor people - is studied on a regional or national scale. Programs within institutions are generally not the focus of analysis and evaluation. Accreditation by national or regional agencies and associations often stimulate program evaluation. Increasing use of long-range planning techniques by colleges and universities also encourages program analysis and evaluation. Second, prior studies are one-shot efforts. The time, energy, resources, and interest to do more extensive longitudinal and systematic studies have not existed. Clearly, "value-adding" has not been valued highly by decision-makers. Third, the evaluation strategies used

are frequently uni-dimensional (what)--test scores or course grades or graduate school attendance or earned salary, or etc.--and single perspective standard (who)--as students view it, or as faculty view it, or as researchers view it--and they rely heavily on a particular method of evaluation - like self-ratings, or interviews or observations or external judges or commercial tests. Increasingly, we think in multiple ways and make judgments using various sets of standards. And fourth, success is not correlated with expense. The question is simply: What price for success? Expense is usually analyzed in financial terms. Shortly this must be expanded to include nonmonetary dimensions--psychological, personal satisfaction, and social benefits.

What the above observations boil down to is this: we do not have much cumulative experience with the assessment of program success in postsecondary institutions.

Based on experience with PERC, the following approach--a multiple perspectives strategy--is offered as a useful way to think about program success, its measurement, and the correlates of success.

The multiple perspectives strategy developed for the PERC model rests upon three components: multiple sources of data, multiple methods of collecting data, and multiple evaluators. The primary rationale behind the strategy is that no single individual or group can determine the full nature of student learning, change, and development.

Student learning and growth is a complex process, not yet well understood, so reliance upon a single source of data is risky. For example, test scores provide, according to many, a reasonable estimate of cognitive achievement. But, at best, tests look at student mastery of content. Better also to find other sources of data.

Another important concern of PERC is to utilize a variety of data collection methods. Interviews, ~~rating forms,~~ survey instruments, content analysis, observation and tests are all important tools for obtaining a full picture of what is

happening to students. Note that this means use of qualitative as well as quantitative techniques. The aim is to develop chains of evidence of where program impacts have occurred.

Multiple evaluators are also a key component to a multiple perspectives strategy. While faculty traditionally assess student learning and program effectiveness, students and others including educational researchers also can provide richness to an evaluation. Since effectiveness is often in the eyes of the beholder, multiple evaluators are important to informed decision-making.

Overall, the multiple perspectives approach posits certain common evaluations that will be reflected in the various research techniques as well as certain unique judgments that may reflect the particular vantage points and knowledge of a given evaluator. This approach conceptualizes the learning/teaching process as complex, interactive, and unique but also patterned. As a result, for certain kinds of students working with certain kinds of faculty, there ought to be identifiable common outcomes. The multiple perspective approach should be able to reveal them. The researchers task is then to present them in understanding and convincing ways to the variety of audiences.

EMPIRE STATE COLLEGE: A NEW KIND OF COLLEGE

Empire State College is new. It was founded in 1971 to help people get a college education in alternative, flexible and human ways. It builds on the strength of the State University system, of which it is part. Empire State is designed as a state-wide institution. It has no campuses and does not duplicate the specialized facilities or libraries common to residential campuses. The heart of Empire State College is its new way of organizing college studies. Here is a brief summary:

1. The student and a mentor design a degree program that meets the student's objectives and the college learning objectives. The degree program is subject to approval by a faculty committee.

2. Depending upon what the degree program is the student may receive college credit for prior school and nonschool learning. This credit takes the form of advanced standing toward an Empire State College degree. The student prepares a portfolio of prior learning that describes the individual degree program, prior learning, and the relation between the two. The portfolio also provides evidence that the claimed learning has taken place.

3. After the amount of advanced standing is determined, the student completes the rest of the degree program through individually designed learning contracts. Learning contracts are drawn between student and mentor, with the approval of the dean, and they describe in detail the learning activities the student will undertake as well as the expected results.

4. A faculty mentor helps the student as adviser, instructor, and evaluator. He advises the student on degree programs and requests for advanced standing, and works with the student in designing learning contracts.

5. Learning contracts make use of learning resources such as modules, libraries, current employment, work internships, independent study courses, and courses at other institutions.

NEW MODELS FOR CAREER EDUCATION (NMCE) PROGRAM OBJECTIVES

A multi-faceted evaluation plan was layed out for NMCE. This report focuses on one part of the plan -- the assessment of student learning and personal development. In order to proceed, the objectives of NMCE with regard to intended student outcomes are needed. This is found by excerpting from certain NMCE documents.

First, the general objectives of NMCE are contained in the following statement:

> The New Models for Career Education proposal drew recognition to an attitude toward career education which is increasingly gaining advocates. Rather than viewing a career as a vocation or a dreary necessity, persons understand that work can be an integral component of self-concept, self-expression of one's inner philosophy of life as well as a principal means of self-realization. Career education in contrast with what has traditionally been called 'vocational education' encompasses not only training for entry-level job skills and a vehicle for continual updating, but also includes a broader base of attitudinal and intellectual development needed to cope adequately within a largely technological environment. In addition to acquiring skills which will enhance one's employability, career education also has in its objectives the development of other human competencies: problem-solving skills, communication skills, self-confidence and career awareness. The rapidity of change, which affects all levels of society and can quickly make career competencies outmoded, has clearly emphasized the increased need for persons to develop such learnings. No longer is it safe to think in terms of 'a' career. Career preparation and updating, as learning, has become 'continuous.' Increasingly mobile patterns point out that a career is better thought of as progress along a pathway with many possible intersections, rather than arrival at a final destination. Education should assist persons in acquiring not only skills but also knowledge, attitudes and competencies in order that they may make informed choices as they are increasingly called upon to 'shift gears' in their personal and work life.

In more specific terms, NMCE aims to develop career programs which: (1) combine on the job experiences with academic study, (2) are based on the student's needs, plans, and aspirations, and the career training requirements as they see them, (3) can include the expectations of the employers as well as potential employers, an (4) meet the requirements and approval of professional and licensing organizations.

These objectives are met utilizing various approaches or "models." One model allows the development of individually tailored degree programs in four career areas - business, allied health, human services, engineering technologies. A second model uses an industrial or institutional site for planning whereby the needs of the institution for upgrading and credentialing employees are carred out within the ESC academic structure. Model three is directed particularly at students considered unprepared for the world of work. A fourth model attempts to address the problem of certification, licensure, and/or registration of programs. Competency-based learning is central to this model. "Step-in-step-out," the core idea of model five, allows students to explore career areas or themes, examine the viability of college experience, test interests, develop needed skills, and gather information for career change, upgrading, and/or improving opportunities. The "homebound" model concentrates on a population who, because of physical and/or emotional conditions, are not adequately served by higher education. And lastly, model seven - consortia draws together in student programs rich and varied resources available at different institutional sites, e.g., community college, state hospital, child care facility, correctional facility, etc. [illegible]s, the NMCE program places particular emphasis on job/career-related learnings and attitudes, and where possible and appropriate, encourages close planning and designing of NMCE student work between employer, mentor, tutor, and student. Second, students in NMCE tend to bring more work experience credit in their advanced standing and degree program. Third, NMCE students, in the main, are half-time students. Nearly 80 percent of these students are registe for half-time contracts. Presumably, many are also regularly employed on a full- or part-time basis. Fourth, learning contracts for NMCE students place greater emphasis on career rather than a liberal arts oriented content. And lastly, "bridging" and

"exploratory" contracts are used in the NMCE program to link job/life to studies and to provide concentrated opportunities for students to explore career options.

PROFILE OF ENROLLED STUDENTS

Four different audiences are identified for the NMCE program - those presently employed, the holder of an A.A.S. or A.O.S. degree, persons "unprepared" for the world of work, and the person who feels inadequately served by traditional college or by ESC.

The NMCE enrollment is approximately 120 students. The NMCE student, while about the sage age as the Lower Hudson student, is one year older than the ESC student (see Table 1)*. The male population is slightly higher than both Lower Hudson and the entire College (see Table 2). The largest area of difference is in student status. NMCE reports 80 percent half-time students while Lower Hudson has 57 percent and the entire College has 45 percent (see Table 3). The percentage of NMCE students (39%) that have at least two years of college is lower than Lower Hudson (47%), however higher than the entire college (30%). This same pattern holds true for one to three years of prior college. NMCE has 66 percent of their students with one to three years of college, Lower Hudson has 78 percent and the entire college has 55 percent. (see Table 4). Over half (57%) of the enrollment of NMCE hold a job which can be classified as professional, semi-professional, executive or supervisory. Semi- or unskilled positions are held by 15 percent of the student (see Table 5). Most NMCE (57%) students consider one of the four career areas of Human Services, Business, Allied Health or Technology as their area of major interest. Only 19 percent indicate another area of interest in areas like human development, the arts, educational studies, liberal arts or social theory (see Table 6).

*All data tables are presented in the appendix.

EVALUATION PLAN AND METHODS

The essential elements of the general evaluation plan for NMCE were: (1) a mid-term study to be conducted by August 1975, and (2) a long-term study which incorporate the College's program effectiveness and related costs (PERC) model.

The mid-term evaluation included studies of attrition and stu-ent mid-course evaluation but focused primarily on selected case studies of currently enrolled students. The criteria used were: (1) the various types of potential student audiences tapped by NMCE; (2) a cross section of four career areas; (3) a diversity of age; and (4) an equal proportion of male-female (representative of the NMCE population). Using these criteria, the students selected for case studies are shown in Table 7.

For each of these cases, various ESC documents--prospecti, contracts, digests and evaluations, etc.--were assembled. The digests and evaluations were studied by ESC's research staff using locally developed content analysis techniques. Personal interviews (tape recorded) were conducted by the research staff with each case study student and his/her mentor. Rating forms about student learning and mentor contacts were completed during the interview. Prior to the interview, letters were sent to each student explaining the project and asking for their assistance. All students agreed to participate in this mid-term study.

In addition, work has begun on the more long-term evaluation of NMCE students. All students were asked to complete the Student Biographical Inventory (SBI). Ten students were interviewed by phone using the Student Experience Questionnaire (SEQ)

since the local Academic Review Committee had approved their degree programs and portfolios for advanced standing. Sixteen NMCE students were interviewed by phone using the Attrition Questionnaire (AQ) who enrolled but faculty believe have permanently withdrawn from the program.

2. EVIDENCE OF SUCCESS

Three kinds of data speak, in some measure, to the question of NMCE's success: attrition, student mid-course evaluation, and case studies of students nearing completion of their program.

ATTRITION

A student cohort was defined (N=120) and followed for eight 28-day months. At the end of this period, 10% (12) students had graduated, 37% (44) were still enrolled and 53% (64) were withdrawn. At ESC, attrition is defined as students withdrawn from the college 8 or more consecutive months. Twenty-seven students (22%) of the cohort had attrited (see Figure 1). This rate appears to be somewhat higher than the total College for a comparable period.

Telephone interviews were conducted with some of the attriters. From this, five problem areas were identified: ESC program and procedures, portfolio, mentor, financial, and personal (see Table 8).

In one case, the student spent the first three months of enrollment preparing his degree program and portfolio. The student felt that in each session with the mentor, different criteria were introduced which required more and more work. The mentor also lost some work which the student was asked to do over. Another student was disappointed because she did not start on any contract work and saw work on the degree program and portfolio as "a waste of time." The student blames the mentor for not integrating contract work with portfolio preparation. Added to this disappointment was the confusion of why she was assigned a business mentor when her area of concentration was journalism. A third student hoped to build learning

contracts around her job but it seemed that the mentor "didn't want to be bothered." One other student "felt like a guinea pig." This student described the school as "disorganized" and the staff as "confused." She spent much time "doing a lot of work and received no credit." Other reasons given were financial problems, family and work responsibilities, and lack of structured programs to fit certain academic goals. Is this success? How much attrition is good? Does NMCE have the "right" amount of attrition?

MID-COURSE OBSERVATIONS

At the time of the study, eight students had completed their portfolio for advanced standing and thus had sufficient experience with ESC to deserve further analysis. This was accomplished by a telephone interview at which time a modified form of the Student Experience Questionnaire (SEQ) was administered. The questionnaire included several questions about student experiences with the portfolio and degree program process, the mentor/student relationship, the learning resources used during students' contracts, and what students felt they had learned thus far in their programs.

Data from Table 9 clearly shows that most help comes from the mentor, with six out of the eight students rating their help as "a great deal" or a "very great deal." This is an indication that the mentor at New Models for Career Education plays a crucial role in students degree program and portfolio preparation. One student commented during the interview that she sought little help, but was given a great deal by her mentor.

A series of questions was asked regarding the fairness, learning outcomes, clarity and personal or impersonal meaning of the preparation process. Three-quarters of the students found the process "generally fair" or "fair," five out of the eight

said that it "generally promoted learning" or "promoted learning" and three-quarters commented that the process was "generally personal" or "personal." While these statistics presented the positive side of the process some of the data collected showed the negative side. Five out of the eight reported that the process was "unclear" or "generally unclear." One student who received 17 months for transcript and seven for work-life experience said that she became so confused and frustrated that she was ready to leave. In order to eliminate the confusion, she suggests rules and structure for the process. Half thought that the process was only a "bureaucratic exercise for credit" or "mainly a bureaucratic exercise."

Although the process was reported as "unclear" and "only a bureaucratic exercise" by the majority of students, the questions regarding the learning outcomes show that the students reported learning in most of the competencies listed on the questionnaire. Table 10 shows that for most of the students (5/6) the portfolio and degree program process was rated as helping "A Great Deal" or a "Very Great Deal" in the following areas: improved communication skills, improved abilities to analyze, evaluate and synthesize, helped to meet academic goals and helped to meet overall personal goals. However, two areas showed "none" or "a little" improvement, "clarifying vocational and non-vocational purposes" and "helping to understand self."

Several questions concerning current or most recent learning contracts were asked during the telephone interview. The topics covered were preparation of contract, feelings during work on the contract, student-mentor interactions and use of resources.

The students exhibited a fair amount of independence in selecting topics and writing the first draft of their contract. Half of the students selected the topics for the contract "alone" or "mostly alone" while five out of eight wrote the first drafts. The mentors played the greatest part in selecting the learning resources and identifying appropriate ways to evaluate the learnings (see Table 11).

In describing learning contract experience the feeling that received the widest range of responses was "worried." Three students replied that they were "never worried," two said they were "always worried" and one each responded for the categorie "rarely," "fairly often," and "most of the time." Five answered that they were "fairl often," "most of the time" or "always tense." One student who has completed three con tracts noted that on her first contract she was "in tears" while another student was apprehensive because she didn't know what was expected of her. Three-quarters of the students were "never" or "rarely" confused (see Table 12) while half said they were "always" confident. All eight were "never" or "rarely" bored, and "always" or "most of the time" interested and challenged.

Four students met or talked with their mentors by phone at least once a week, two students were in contact once every three weeks while one student saw his mentor once every two weeks. These interactions were described by the student in their answers to several questions. Seven students answered that their relationship with their mentor was "almost always" productive and personally satisfying and that their mentor let them have "lots of rope" to pursue their goals. Most (6 of 7) of the students said that their mentors "frequently" or "almost always" challenged them to work at a level higher than expected, made them think through difficult questions rather than provide answers, clearly took into account personal desires in planning their degree program and eased their anxieties when they worried about contract work (see Table 13).

CASE STUDIES

Six NMCE students were chosen purposely for intensive case study and analysis. The characteristics of the student cases are displayed in Table 14. For each of these cases, various documents--prospecti, contracts, digests and evaluations, etc.--were assembled. The D's & E's were studied by ORE staff using locally developed content analysis techniques. Personal interviews (tape recorded) were conducted by ORE staff with each case study student and his/her mentor. Rating forms about student learning and mentor contacts were completed during the interview. Prior to the interview, letters were sent to each student explaining the project and asking for their assistance. All students agreed to participate in this mid-term study. Each case study runs 5-8 single spaced pages, and thus simply cannot be summarized here (these cases are available by request). What we can do, however, is to provide a snapshot of each case and review evidence about career, learning, and personal outcomes associated with ESC studies.

JEFF

Jeff is 31 years old, married to a high school graduate and has two children. He has spent his whole life living in the same rural community. His father is a truck driver who had some high school while his mother, a housewife finished her high school education.

Jeff set three major goals for his Empire State College study: attaining specific skills useful on his job, developing an understanding and an appreciation of science and technology, and improving this ability to undertake self-directed learning. Also, somewhat important, were meeting academic requirements necessary to enter a profession or graduate school, improving his professional status, and obtaining a degree for future job advancement.

During his interview with research staff, Jeff rated himself on College learning objectives much below average in analysis, synthesis, awareness, and self-understanding. In the area of application he considered himself to be a little above average while he rated himself much above average in clarifying purposes. His mentor rated him a little higher in most areas. In particular, Jeff was strong in applying the competencies in the science areas, but considerably weaker in non-technical areas.

MARK

Mark is 25 years old. He was raised in the Bronx but now lives in Westchester with his who holds an associate degree and is currently employed as a secretary. His father, a retired motorman, finished high school while his mother, a housewife, had some high school but did not graduate. Mark received an A.A.S. in Food Service Administration from Westchester Community College in 1969. For the past 4 1/2 years he has been a technical craftsman for the New York Telephone Company.

Mark knows that business/marketing is a very competitive field and many companies will not interview for positions unless the candidate has a master's degree. Thus, he has begun work at Empire State to get a bachelor's degree in business and marketing thereby enhancing his chances for promotion.

Both Mark and his mentor were asked to evaluate his competencies when he entered New Models compared to where his competencies are at this point in his college career. The ratings, based on a scale of lowest = 1, average = 5, and highest = 9, were given on the following areas of competencies: analysis, synthesis, application, clarifying purposes, awareness, and self-understanding. In all of the areas, Mark rated himself a high average, either seven or eight. His mentor, on the other hand, felt that in the areas of awareness and self-understanding, Mark was close to average while in clarifying purposes it depended on the specific area. He rated him 4 in non-vocational areas and 7 in vocational. The mentor declined to give ratings on the competencies of analysis, synthesis and application because he felt that these skills do not carry over from one area to another. Mark could rate high in one area and low in another area in the same competency.

ELLEN

Ellen is 54 years old and married to a truck driver. She has two children, both college graduates with one holding a doctorate, and four grandchildren. Ellen herself attended Rockland Community College on a part-time basis from 1963-1967 earning twelve liberal arts credits in an Associate's degree in cultural anthropology, ethics, modern poetry and advanced composition. In addition, she works at Letchworth Village, an institution for mentally retarded individuals where she has taken several inservice training courses including a 400 hour attendants' training course, a fundamentals of supervision course, a case studies in supervision course and a ten hour workshop in behavior modification. She also has completed two Civil Service Employees' Association non-credit courses in public personnel administration and concepts of modern public administration.

Ellen had definite goals when she came to New Models for Career Education. She wanted to get a B.A. degree in Human Services but also wanted the program of study to prepare her for the anticipated job. Her mentor noted that her work was effective because of practical experience both in education and within her organization. What she needed was an approach that more systematically integrated various learning.

In the three digest and evaluations that were content analyzed, Ellen scored on the average seven points (out of a possible 10) with analysis, synthesis and application receiving the highest scores and general learnings the lowest. Ellen received one point in the second contract for self-understanding, where her affective skills were enhanced in the poetry and visual arts workshop. Ellen's three contracts were at an advanced level, both theoretical and practical in orientation; contemporary; interdisciplinary and professional/vocational in mode of learning; continuous from one to another, and revealed strength in basic communication skills. The mentor and tutors evaluated her work as more than satisfactorily. The learning resource profile revealed that Ellen's mentor served basically as a resource coordinator and that work experience was an integral part of her contract work. In addition, Ellen used workshops, logs and her own research project as supplementary resources.

In rating level of competency at entry in several areas the mentor rated her high in the areas of analysis, clarifying purposes, awareness and self-understanding. The mentor also rated her close to average in synthesis and application. The mentor made nearly the same rating at program completion. The mentor explains the ratings in this way:

> I really don't think we did that much to change her...I think she was there...she's 54 years old...you take six months out of a person's life, in six months you're going to see a change? That six months is such a small amount compared to the rest of her life.

In contrast, Ellen's self-ratings do show perceived growth in several of the competencies. Also, she generally rates herself higher than the mentor did in all areas upon completion of her studies.

PHIL

Phil is 44 years old. He is married with three children, ages 17, 15 and 10. He has lived all of his life in the same location, his parents had no education beyond grammar school and Phil went to a nearby public high school. Phil has been in the county police department for almost 24 years. He is active in several community organizations including Scouting, the Explorers and Police Cadets, and serves on the community's Alcoholism Task Force and is a member of the Helicopter Emergency Lift Program.

Phil described three goals in his degree program statement: to teach at a college level, to become a police consultant for a small department, and to work with young people in and outside the law enforcement field. Since most of his prior learning was in criminal justice, he decided to work toward a Bachelor of Science in Human Services at NMCE with a concentration in criminal justice. At New Models, he planned to round out his highly specific education with some liberal arts work. The mentor says, "His concern was with broadening his understandings in those areas of police work that had to do with Human Services and he had gleaned from his experiences a great deal."

The mentor's ratings show that there has been no growth in Phil's ability to analyze and synthesize, he came with a high ability and used it in his work. In ability to apply theories and concepts the mentor says that Phil could apply learnings well in familiar areas however in new areas he "vacillated between good application and some fuzziness." The mentor felt that during preparation of his portfolio some refinement of his purposes took place however his goals and values were already well developed at enrollment. Phil is described as being open to change but considers all angles before changing. His contract work has merely opened Phil to more areas where he has had to think through various problems and come to a decision. Phil's ratings shows that he places his abilities in the average range in areas of analysis and synthesis while much above average in application, clarifying purposes, awareness and self-understanding.

A content analysis of Phil's digest and evaluations indicated that he scored very high on cognitive learnings. On the affective outcome areas examined, evidence of learning was not recorded with one exception. Phil did complete as part of his first contract a portfolio which served to clarify his purposes, an affective outcome.

Phil's two contracts represented a mixture of exploratory and advanced work; contained both theoretical and practical materials; were contemporary not historical; were interdisciplinary and professional/vocational (the second one also was problem focused) in modes of learning; were discontinuous in nature and showed evidence of basic communication skill strength. In terms of the learning resources profile, Phil used his mentor basically as a tutor, used his work experience as an essential part of his learnings (including special workshops and seminars) and the purpose of the readings cited on the D&E were clearly identified and integrated into the degree program framework. The mentor evaluative comments in both D&E's were classified as more than satisfying the requirements of the contracts.

KAREN

Karen is 30 years old, divorced, has a three year old child and lives with her mother. She has spent her life in the same city, attended public high school and graduated in the top half of her class studying "about the same amount as most students." Her father, a mechanical engineer at a local hospital, attended high school while her mother, an assistant at the same hospital, attended grammar school.

Karen's goal at Empire is to obtain certification as a lab technician by taking the American Society of Clinical Pathologists Exam for Medical Technologists. Whereas earlier Karen could not see the value of a bachelor's degree, she now sees the degree as essential to her career goals.

A content analysis of Karen's first digest and evaluation revealed a heavy cognitive learning impact; especially in analysis and application skills. On the other hand, no evidence of affective outcome impact was contained in the digest document. In terms of several demensions of contract work, Karen's contract contained elements of both exploratory (i.e. lower division) and advanced (i.e. upper division) work, was both theoretical and practical in orientation, was contemporary rather than historical in focus, used an interdisciplinary and professional/vocational mode of learning and a weakness in basic communication skills was reported. This deficiency may be corrected in a subsequent contract.

Karen's second contract is similar to Contract I. However, it focuses on the theory and methods of bacteriology, serology, mycology, and immunology. The same references were cited, and the evaluation methods were the same. This time Karen used the television course the "Ascent of Man" to earn four weeks credit in general learning. As yet, the Digest and Evaluation has not been written.

During an interview with a member of ESC's Office of Research and Evaluation, Karen was asked to describe her feelings during the last contract. She began by saying that she was never relaxed, that she was always tense. She went on by saying that she was worried most of the time, tense and confused fairly often and never really confident. Furthermore, she was never bored, always interested and challenged most of the time. Karen also commented that she can work and study full time because they are closely related. At work, she is able to study between three and four hours a day. Although difficult, this combination is necessary to complete her career plans.

Karen's mentor rated her level of competency in several college defined educational outcomes as close to average, perhaps a little higher in clarifying purposes and self-understanding. On the other hand, Karen rated herself very high in the areas of analysis, clarifying purposes and self-understanding while near average in synthesis, application and awareness. Karen is now taking chemistry courses at a local community college, and working on her portfolio which she hopes to present for advanced standing in September.

RUTH

Ruth is a 50 year old mother of five who has lived in Rockland County since her marriage. She graduated in the top half of her public high school class studying "the same amount as most students," but had no college experience previous to Empire. She considers no other learning experiences highly significant, although she attended a secretarial school and completed an Arthur Murray Teacher Training Course.

Ruth has much uncertainty over her ability to perform college work, in part, because she has had no formal educational experience in 33 years. On this, she stated, "I guess nobody could have come more empty-handed than I came." Added to this uncertainty was preparation for a different career. Overcoming such feelings of uncertainty and finding the beginnings of a career played a major part in her ESC experience. To get some help in these challenges, Ruth sought help at a local counseling center for women. Testing at the center showed she could qualify for college. However, a structured college program would not allow Ruth to spend time at home taking care of her family. When she heard of ESC's program from a counselor at the women's center, she thought it might be ideal for her situation. "College was completely out of the question until ESC became available."

The content analysis evaluations of Ruth's first two digests confirm the student and mentor ratings of her competencies. She received a rather moderate scoring (average 4.5 points on 10 point scale) for cognitive impact and no recording of affective outcome impact. Both contracts were exploratory in nature (lower division work); both theoretical and practical in orientation, contemporary disciplinary or interdisciplinary, discontinuous, and revealed a weakness in basic communication skills. The contracts were evaluated by the mentor as adequate and more than satisfactory. The mentor was generally used as a resource coordinator, bibliographies were stated on both contracts, and the purpose of the readings was clearly identified.

The first year of enrollment at ESC was a bridging year for Ruth, a time to become familiar with college level work and gain confidence. Ruth and her mentor rated her level of competence in several areas. Ruth rated herself below average in the areas of analysis, synthesis, and application, average in clarifying purposes and awareness and a little above average in self-understanding. Her mentor, on the other hand, rated her above average in all areas. Ruth's conservative ratings show that she still has strong self-doubts.

3. DISCUSSION

A complex array of evaluative data and information have been reviewed concerning the success of the NMCE. It seems appropriate now to stand back a bit from this program and to talk about the concept of success as used in postsecondary education and as illustrated with the case of NMCE.

At NMCE, program evaluation is underway. However, no clear definition now exists about what constitutes success, and no clear standards can be articulated. The program is new and there is strong interest and commitment to work out what will be indicators of program success. It is not clear at this time what the data on attrition rates mean as far as NMCE's success. Students interviewed do point out some aspects of the program that are weaknesses from their point of view, such as portfolio preparation procedures. The student and mentor ratings generally show learning in terms of the College's cognitive objectives for students. Also research staff analyses of student digests and evaluations revealed a general pattern of cognitive learning. But, how much is enough? What are the faculty's expectations for student learning? How do we judge whether NMCE is successful using the student and mentor ratings, attrition data, and the results of content analysis? Standards need to be articulated and applied to these rich and varied types of data.

But let's look at the data a little bit more. Some early points can be extracted that suggest what "quality" and "program success" mean for persons close to NMCE. Most of these persons talk about the success of NMCE--let's see what stands out in their minds.

Administrators of the program talk about success. They see enrollment increasing, enrollment targets being met, and a backlog of students wanting admission to the program. Also, the college's backing of the program is evidenced by the number of state lines dedicated to it. Recall that the program was started heavily dependent on "soft" money. In addition, program administrators receive positive feedback from employers, community agencies, and state offices affiliated with the program. Although mainly "traditional," these indicators of success are important for they reinforce foundation interest and are encouraging signs of potential developments.

Faculty, too, speak in praising ways about NMCE's development and future. Why? ESC faculty mentors are attracted to the College for special reasons. They've had their fair share of lecturing, meeting large classes, and presenting "canned" material. And this isn't fully satisfying. At ESC, faculty work on a one-to-one basis with students; they get to know their students in ways unknown at larger, more routinized collegiate environments. Furthermore, they can assist students at ESC to frame individual programs of learning and define significant roles for themselves in the implementation of these individualized programs. In sum, NMCE faculty have a real opportunity to affect student learning and development, and do it in fields that have clear career consequences.

A third part of the success puzzle emerges when we ask: What's in NMCE for students? NMCE students are somewhat older and somewhat more experienced in the work life than is generally true for ESC students. This means that these students likely

have both prior college work and prior work experience they think is creditable toward an undergraduate baccalaureate degree. ESC provides an opportunity for this prior experience to be examined and made an integral part of the student's ESC academic program.

Older age and more work experience also means that a collegiate program should, within reason, lead to tangible outcomes--recognition of competencies earned, more salary, a better job, or a different career. ESC's NMCE program seems to meet these important student needs.

In conclusion, we submit that a multiple perspectives view of educational program effectiveness and success has merit. No one person or single agency can capture what an educational experience means to an individual or to the overall success of a program. Although not new, we suggest that persons attempting to decide on the success of an educational program: (a) look at a variety of data, and (b) weigh data against the interests of the different persons - administrators, faculty, students, state officials, taxpayers - who are critical to the program's success. Those are our rough thoughts as of now.

APPENDIX

Table 1

Student Age

	# of Students	Age
NMCE	118	36.3
Lower Hudson	77	37.5
College	29[illegible]	35.3

Table 2

Sex

	Male		Female		Total	
	#	%	#	%	#	%
NMCE	71	[illegible]	48	(40)	119	(100)
Lower Hudson	45	(52)	44	(48)	89	(100)
College	1751	(51)	1680	(49)	3431	(100)

Source: Student Master File, June 23, 1975

Table 3

Student Status

	Full-time		Half-time		3/4 time		1/4 time		Total	
	#	%	#	%	#	%	#	%	#	%
NMCE	25	(21)	94	(79)	0	0	0	0	119	(100)
Lower Hudson	38	(43)	51	(57)	0	0	0	0	89	(100)
College	1470	(43)	1541	(45)	9	-	411	(12)	3431	(100)

Table 4

Highest Grade Completed

	No H.S. Diploma		12th		GED		1 yr. Coll.		2 yr. Coll.		3 yr. Coll.		4 yr. Coll.		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
NMCE	5	(4)	32	(27)	1	(1)	22	(18)	46	(39)	11	(9)	2	(2)	119	(100)
Lower Hudson	3	(3)	15	(17)	0	(0)	16	(18)	42	(47)	11	(12)	2	(2)	89	(100)
College	361	(10)	973	(28)	169	(5)	453	(13)	1032	(30)	383	(11)	60	(2)	3431	(100)

Source: Student Master File, June 23, 1975

Table 5

Occupational Status

NMCE Students Only

Occupational Status	#	%
Professional	20	(17)
Semi-professional	12	(10)
Executive	8	(7)
Supervisor	28	(24)
Technical	10	(8)
Small Business	1	(1)
Skilled trade	4	(3)
Semi- or unskilled	18	(15)
Art	4	(3)
Housewife	1	(1)
Student	4	(3)
Unemployed & Retired	2	(2)
Unknown	7	(6)
Total	119	(100)

Table 6

Major Interest

NMCE Students Only

Interest	#	%
Community & Human Services	23	(19)
Business & Economics	19	(16)
Allied Health	14	(12)
Science, Math & Technology	12	(10)
Human Development	9	(8)
Arts	5	(4)
Educational Studies	5	(4)
Liberal Arts	2	(2)
Social Theory, Social Structure & Change	2	(2)
Historical Studies	0	(0)
Cultural Studies	0	(0)
Unknown	28	(23)
Total	119	(100)

Source: ESC Student Master File, August 13, 1975

Table 7

Characteristics of Student Cases

Name*	Field	Age	Sex	Characteristics
Jeff	Technology	31	M	On the job training; inclusion of IBM courses in degree program
Mark	Business	25	M	AAS in food technology; career switch; young
Ellen	Human Services in Allied Health Setting	54	F	Substantial life experience credit; utilized her work in her learning; her promotion was dependent on her receiving the B.S. degree; unusual new career role
Phil	Human Services	44	M	A.S. degree in concentration; concentration completed through experiential learning; needed broadening
Karen	Allied Health	30	F	Came with RN. In her degree program she combined various elements in her background into new area-medical technology. She is attempting certification through an independent route
Ruth	Human Services	50	F	No previous college education; out of school for 25 years; began with a bridging contract, i.e., one which brought together her family experience with her exploration of possibilities within the human services career area. Degree program has similar type of organic development.

*Pseudonyms used

Figure 1

New Models for Career Education Attrition

August 14, 1975

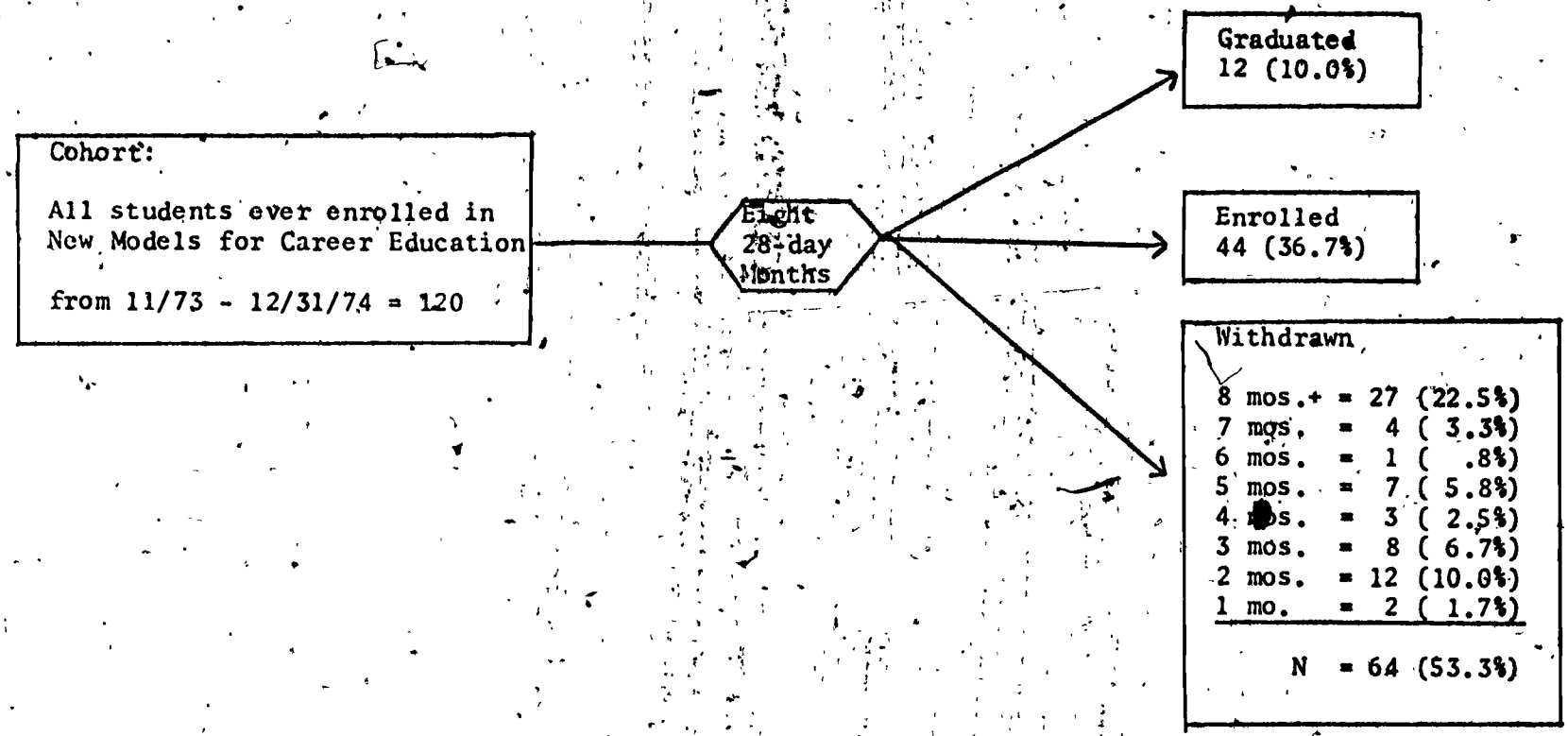

Table 8

Problems Influencing Withdrawal

Problem Areas	Students										
	1	2	3	4	5	6	7	8	9	10	Totals
Problems with ESC program and/or procedures	x	x	x	x			x				5
Problems with portfolio		x	x	x							3
Mentor problems	x	x		x	x		x			x	6
Financial problems						x					1
Personal problems						x		x	x		3

Table 9

Assistance Regarding Portfolio and Degree Program Preparation

Source of Assistance	None	Some	A Great Deal	Very Great Deal	Does Not Apply	Totals
Your Mentor	1	1	1	5	0	8
Your Spouse	0	1	0	4	3	8
Your Friends	0	2	0	0	6	8
From the Saratoga Assessment Office	3	2	1	0	2	8
Local	1	1	0	1	5	8
Other Mentors	0	0	0	1	7	8
Others (assessment specialist, other students, etc.)	0	0	0	0	8	8

Table 10

Learning Outcomes From Portfolio and Degree Program Process

Competency	# of Students				
	None	A Little	A Fair Amount	A Great Deal	Very Great Deal
Improved communication skills.	1	2	1	2	2
Improved ability to analyze.	1	1	1	3	2
Improved ability to evaluate.	1	1	1	4	1
Improved ability to synthesize.	1	1	1	4	1
Clarified vocational & non-vocational purposes.	5	0	1	1	1
Increased understanding of self.	3	2	0	1	2
Helped to meet overall academic goals.	1	1	0	4	2
Helped to meet overall personal goals.	1	1	1	3	2

Table 11

Development of Contracts

Contract Activity	# of Students					
	You Alone	Mostly Alone	Together	Mostly Mentor	Mentor Alone	Totals
Selection of Topics	3	1	4	0	0	8
Selection of Learning Resources	1	2	4	1	0	8
Identification of Evaluation Criteria	0	1	3	2	2	8
Writing the first draft	5	0	3	0	0	8

Table 12

Feelings During Contract Work

Feeling	# of Students				
	Never	Rarely	Fairly Often	Most of the Time	Always
Worried	3	1	1	1	2
Tense	3	0	2	1	2
Confident	0	3	1	0	4
Bored	7	1	0	0	0
Interested	0	0	0	3	5
Challenged	0	0	0	3	5
		-	0	0	2

Table 13

Mentor/Student Interactions

Type of Mentor/Student Interaction	No Ans.	Never	Occasionally	Frequently	Almost Always	Undecided	Totals
Mentor challenged me to work at higher level.	0	1	1	2	4	0	8
Mentor made me think through difficult questions.	0	0	0	3	5	0	8
Mentor clearly took into account my personal desires.	0	1	0	1	6	0	8
Mentor eased my anxieties.	1	1	0	1	5	0	8
My relationship with my mentor was productive.	0	0	1	0	7	0	8
My relationship with mentor was personally satisfying.	0	1	0	0	7	0	8
My mentor let me have lots of rope to pursue my goals.	0	1	0	0	7	0	8

Table 14

Characteristics of Student Cases

Name*	Field	Age	Sex	Characteristics
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